Bang & Olufsen BeoLab 5 Loudspeaker

Neil Gader

Every audio manufacturer aspires to build a flagship. Denmark's Bang & Olufsen has taken that stock dream a giant leap further with the newly introduced BeoLab 5. Like something that plummeted to Earth from outer space its robo-sat styling is genuine show-stopper quality, and its bevy of high-tech features reads like a NASA pre-launch checklist. But there's nothing gratuitous or cavalier in either its design or execution. It might have the look of a *Star Wars* droid but its performance is nothing less than seriously high end. B&O has reached for the stars with the BeoLab 5 and with few reservations has nearly touched them all.

Breaking The Sound Barrier?

Before discussing the technology behind the BeoLab 5 I need to vent some of my enthusiasm for a couple paragraphs. I've had two opportunities to hear the B5—the first at the factory in Streuer, Denmark, but only for a brief session. Then, for this review, I auditioned them in my much smaller room, under real-world conditions, wondering whether the magic would translate. Indeed it did. The qualities that I found so striking under vastly more controlled circumstances came to life once more.

First there was the sheer musicality of this speaker—sonics both unbridled and relaxed. Tonally the BeoLab 5 was silkier than warm chocolate pudding, with frequencies flowing across the octaves unbroken by the spikes or troughs that tend to needle over extended listening sessions. The BeoLab 5 didn't sound especially dark or light in any range, nor did it sound hard or brittle. Instead the music seemed thickly cushioned, as if from a damped, velvet-curtained venue with an SRO crowd. The speaker had a midrange that didn't italicize particular frequencies, nor were there seams or frayed edges at the limits of its performance envelope. The BeoLab 5 takes a good piano record-

AVguide.com home theater. stereo. film. music.

ing like Warren Bernhardt's *So Real* [DMP Records SACD] and convincingly recreates the weight and physicality of the instrument. From single-line arpeggios to cacophonous chord clusters, pianos of any ilk, whether highbrow concert grand Steinways or Tom Waits' beloved, beer-stained upright, are reproduced with the drive and sensitivity of the whole ivory, wood, and steel instrument.

Likewise with both male and female vocalists, the B5 reproduced fully-fleshed bodies rather than an irregular mosaic of disconnected body parts. It seemed to *propel* sound toward the listening seat unlike anything I've ever heard before. It didn't merely reveal a soundstage hanging like a scrim; instead the music seemed to have texture that your fingers could almost handle, and in live performance recordings it seemed to be gently pressing you into your seat. This could be appreciated during "1A" from *Appalachian Journey* [Sony SACD] when bassist Edgar Meyer grinds his bow into the strings extracting a leading transient crunch followed by deep ripples of resonant harmonics. The BeoLab 5 put meat on the bones of music like few other speakers I've engaged. Yes, it's a highly refined, smart speaker. It'll coast along all day on a diet of harpsichord and Haydn. But it's not afraid to boogie either. When John Lennon shrieks the final "all right" during "Revolution" [*Hey Jude*, Parlophone] the guitar-slashing energy that the B5 expels makes you feel for that moment that you're a freaking part of a genuine revolution. And as I listened to "Murder By Numbers" by the Police [*Synchronicity*, A&M] I heard all I needed to hear about dynamic gradation and mid-bass drive. "Uncle," I mumbled to myself.

The BeoLab 5 didn't sound especially dark or light in any range, nor did it sound hard or brittle. Instead the music seemed thickly cushioned, as if from a damped, velvet-curtained venue with an SRO crowd.

The speaker's effortless extension was so inspiring that I ran to dust off the heavy cannons of Tchaikovsky's *1812* Overture [Telarc SACD] and other woofer fodder to let them have their way with BeoLab 5. Wave after wave of low frequencies were welcomed with unwavering eagerness and coolness under fire by the B&O. During the *1812* the cannon fusillades and the closing church bells dance through the soundstage effortlessly at any insane volume level. The impact of the cannons, which report primarily from the left side, seemed to twist my listening room sideways, the bells floating ethereally over the soundspace. Low-frequency definition was stunning, the BeoLab 5 utterly unruffled by complex combinations of bassoons, strings basses, and trombones.

Transient details and harmonics were exquisite in their delicacy, with string sections receiving special attention from the B&O. The individuation of instruments in each section was so extraordinary in its precision that the best way I can illustrate it is to picture the wing span of a great bird while seeing each feather along that span. Even in flight each feather cuts the air with a distinctive attitude. This is as close to what I heard as I can describe. It combined precision with diffusion yet it didn't portray images with diamond-cutter certitude. The BeoLab was as exacting as a sleight of hand magician with a couple extra fingers.

Tech Background

The BeoLab project began in earnest in 1997 with a unique directive from design-savvy B&O—rather than design first, with the usual performance constraints, this speaker was to merge function and form like no other B&O product before it. The result is a fully active, remote-controlled and DSP-controlled four-way acoustic suspension loudspeaker.

Physically the BeoLab 5 is divided into two main design elements. The bottom pod is conical and houses a 6.5" mid-bass driver and 15" downward-firing woofer as well as the electronics, quadruple Class D amplifier packs, courtesy of ICEpower, a subsidiary of B&O. These compact and efficient amps were designed especially for the close confines of the BeoLab 5's enclosure and run extremely cool. The total power to each BeoLab 5 is a whopping 2.5kW, which breaks down to 250W to the tweeter, 250W to the midrange, and 1000W each to the high woofer and low woofer.

A short neck connects the base pod to the second design element: the Acoustic Lens Technology, elliptical structures that individually focus the reflected output of the 3" upward-firing soft-dome midrange and .75" soft-dome tweeter. The Acoustic Lens is said to provide phase correct, 180-degree dispersion and smooth power response. Licensed from professor David Moulton and engineer Manny LaCarruba of Sausalito Audio Works, the Acoustic Lens technology, more than any other feature, gives the BeoLab 5 its unique personality. The large disc supporting the midrange lens helps control floor reflections, the upper discs reducing ceiling reflections. Further corroborating the company's power response claims, the BeoLab 5 doesn't demand that your head be held in a figurative vice to fully appreciate its tonal smoothness. In fact I could even get away with slouching a bit.

Easy As ABC

While the Acoustic Lens controls the mids and highs, ABC (Adapative Bass Control) optimizes the mid and low bass by measuring the change—irrespective of room size—in acoustic energy output of the speaker. Its job is to maintain power out-

AVguide.com home theater. stereo. film. music.

B&O has to be lauded for thinking—literally—beyond the box and pushing the outside of the envelope.

put into any room based on a pre-selected factory target curve. Contrast this with a Sigtech device where the signal of each speaker is "corrected" for frequency and phase at the *listening* position. Conversely, ABC minimizes or tames typical bass peaks and troughs from each individual speaker position and arrives at a room average. It has a filtering range of -15dB to +10dB and operates via the MMS or Moving Microphone System located in the base of each B5. With the touch of a small button on the top disc of the speaker the microphone extends to two different lengths, comparing a series of tones from each position, analyzing room effects, and selecting a compensatory filter curve.

Whether connected directly from a CD player via a coaxial RCA cable or through analog line-level inputs, all incoming signals are greeted by DSP for equalization and crossover and later bid adieu by an Analog Devices 192kHz/24-bit D/A converter rated at a 114dB dynamic range. Ergonomic note: Volume is controlled only by the remote control and there's no numerical value or any indication of volume level on either the remote or the speaker, a curious oversight.

Preservation of such a costly investment hasn't been neglected. There are sensors on the magnets of each driver continually relaying information to the DSP. The DSP even compensates for the thermal compression of the woofer and midbass drivers by increasing or decreasing power accordingly. The crossovers are selected at 420Hz, 600Hz, and 2kHz, with the low and upper bass units employing 24dB/octave slopes. The tolerances are extremely tight: ±.25dB from 100Hz–10kHz.

Still that's not to say the BeoLab is without a distinctive voice. It's not an aggressive, forward sounding speaker in classic BBC studio control monitor terms. Orchestral music or Evgeny Kissen's reading of *Pictures At An Exhibition* [RCA] revealed a tiny drop in dynamic energy in the upper mids that places the music at a slightly greater depth in the soundstage. This sense of tonal politeness doesn't "distance" the listener per se—it actually adds a seductive warmth to the performance without rounding transient edges. But it's there. Also in my small room I sometimes felt there was a lid on soundstage height, that the directivity of the speaker was perhaps a bit too well directed.

But its reproduction of low bass was the only area I'd describe as idiosyncratic. Its response was virtually unstoppable as it plummeted like a meteor into the low 20Hz range in my room. I've little doubt that with more room volume to play with the BeoLab 5 can hit its flat-to-20Hz spec with little trouble. Thus organ lovers and general bass aficionados can rejoice. But deep bass can also be a very personal thing and not everyone, nor every "room," may appreciate B&O's low-frequency voicing. Occasionally the B5 just grew overly weighty and verged on overwhelming the performance. There were moments that I wished for some good old fashioned audiophile *control*—some EQ or even a simple room-gain switch to roll off the bass a few dB below 30Hz would have been helpful. It would be easy to implement with such a sophisticated DSP but this option isn't being entertained as of this writing. Amazingly the quality of the bass was never lost even as I express these reservations. There were no overhang artifacts. The speaker was nothing less than precise on all genres of music. But for my taste I sometimes wanted to roll it off just a bit.

A Speaker With The Right Stuff?

Every audiophile has his own mind made up about what constitutes the perfect loudspeaker. But B&O has to be lauded for thinking—literally—beyond the box and pushing the outside of the envelope. I'm reminded of the segment during the movie *The Right Stuff* where the Mercury astronauts—test pilots all—demand manual flight controls and a window for their capsule. They wanted to be in charge of their own destiny rather than just monkeys fired out of a cannon. Similarly, fully active loudspeakers like the BeoLab 5 require a certain subjugation of the audiophile need to tweak. The BeoLab 5 will create quite a quandary for hands-on hobbyists. But for those of a set-it-and-forget-it mindset, your Eagle has landed.

SPECIFICATIONS

Drivers: .75" tweeter, 3" midrange, 6.5" upper-bass woofer, 15" woofer
Frequency response: 18Hz–20kHz
Amplifier Power: Class D, ICEpower; treble, 250W; midrange, 250W; upper-bass, 1000W; bass, 1000W
Dimensions: 38.2" x 19.3"
Weight: 135 lbs.
Price: $16,000/pr
Warranty: Three years parts/service

ASSOCIATED EQUIPMENT

Sota Cosmos Series III turntable; SME V pick-up arm; Shure V15VxMR cartridge; Simaudio Equinox, Sony DVP-9000ES; Magnum Dynalab MD90 Tuner; Plinius 8200 Mk2 integrated amp; Nordost Blue Heaven cabling, Kimber Kable BiFocal XL; Wireworld Silver Electra and Kimber Palladian power cords; Richard Gray line conditioners

MANUFACTURER INFORMATION

BANG & OLUFSEN AMERICA, INC.
780 West Dundee Road
Arlington Heights, Illinois 60004
(866) 520-1400
www.bang-olufsen.com

AVguide.com home theater. stereo. film. music.